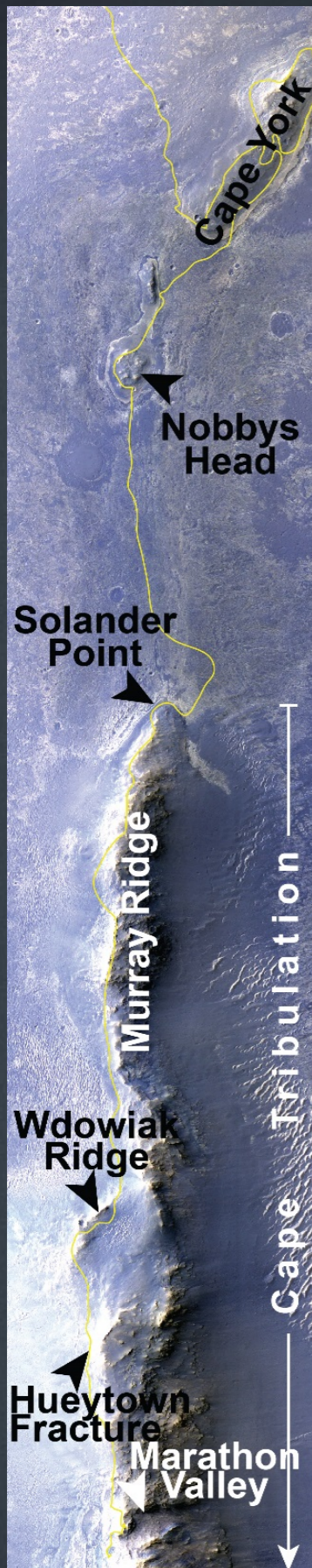


Endeavour Crater Eroded by Water in Distant Past



- The “marriage” of HiRISE and rover-based data sets identifies key morphologies that permit characterization of impact and degradation morphology at Endeavour Crater and provide a new tool for measuring the amount and processes of degradation of large, ancient (Noachian) complex craters.
- Results demonstrate that Endeavour’s original rim averaged 410 m \pm 200 m in elevation, of which ejecta comprised the upper 250-275 m (\pm 50-60 m). The current form of Endeavour indicates ~100-200 m Noachian rim lowering by mostly fluvial processes variably stripped the ejecta with later embayment by plains rocks, of which a ~100-200 m section remains. Thicker deposits of plains rocks occur inside the crater: the original crater depth was ~1.5 km to 2.2 km.
- Characterization of key morphology around other, widely occurring, ancient complex craters can help map of where, when, and how much water-driven vs. alternate degradation occurred on Mars, thereby contributing to our understanding of the distribution and duration of past habitable settings.

Published in *Icarus* Special Issue “MicroMars to MegaMars”

Grant, J.A., T.J. Parker, L.S. Crumpler, S.A. Wilson, M.P. Golombek, D.W. Mittlefehldt (2015), The degradational history of Endeavour crater, Mars, *Icarus*, <http://dx.doi.org/10.1016/j.icarus.2015.08.019>